Grizzly Industrial, Inc.®

HEIRLOOM GUITAR KITS

MODELS H6082, H6083, H6086

INSTRUCTION MANUAL

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WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints.
- Crystalline silica from bricks, cement, and other masonry products.
- Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

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SECTION 1: SAFETY

⚠WARNING

Always wear safety glasses or goggles when operating equipment. Everyday glasses or reading glasses are not safety glasses. Be certain the safety glasses you wear meet the appropriate standards of the American National Standards Institute (ANSI).

Because there are various ways to cut and join wood, you can make substitutions for the methods stated in this manual. We try to suggest the easiest methods possible. However, only you know your skills with each piece of machinery. Never compromise your safety by using a cutting method with which you are not comfortable. Instead, find an alternative approach that will yield the same result.

⚠WARNING

These instructions assume that you are intimately familiar with the safe operation and use of woodworking machinery and woodworking tools, and understand the techniques used to assemble this project. If you do not qualify for both of these criteria, **STOP building this project for your own safety.** Read and understand the owners manual for the machinery you intend to use, take a woodworking class or visit your local library for more information. Woodworking machinery and tools are inherently dangerous because they use sharp edges that can and will cause serious personal injury including amputation and death. Do not underestimate the ability of these tools and machinery to cause injury. Never operate any tool without all guards in place and always wear approved safety glasses. For your own safety, please heed this warning.

SECTION 2: INTRODUCTION

Foreword

We are proud to offer the Heirloom Electric Guitar Kits. These kits are a part of a growing Grizzly family of fine woodworking products. When assembled according to the guidelines set forth in this manual, you can expect years of enjoyment from your guitar.

We are pleased to provide this manual for the Model H6082, H6083 and the H6086 Heirloom Electric Guitar Kits. It was written to guide you through assembly, review safety considerations, and cover general information. It represents our effort to produce the best documentation possible.

Contact Info

If you have any comments regarding this manual, please write to us at the address below:

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C/O Technical Documentation
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Bellingham, WA 98227-2069

Most importantly, we stand behind our products. If you have any questions or parts requests, please call or write us at the location listed below.

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The specifications, drawings, and photographs illustrated in this manual represent the Model H6082, H6083 and H6086 Heirloom Electric Guitar Kits as supplied when the manual was prepared. However, owing to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly. For your convenience, we always keep current Grizzly manuals available on our website at www.grizzly.com. Any updates to products will be reflected in these manuals as soon as they are complete. Visit our site often to check for the latest updates to this manual!

SECTION 3: PARTS INVENTORY

Model H6082/3 Parts

REF	PART #	DESCRIPTION	
1	PH6082001	Neck	1
2	PH6082002	Guitar Body for H6082	1
2	PH6083002	Guitar Body for H6083	1
3	PH6082003	Pickups	2
4	PH6082004	Tuners with Screws	6
5	PH6082005	Tuner Bushings with Washers	6
6	PH6082006	Truss Rod Cover w/Screws	1
7	PH6082007	Wiring Harness	1
8	PH6082008	Strings	6
9	PH6082009	Tap Screws M2 X 12	9
10	PH6082010	Tap Screws M5 X 45	10
11	PH6082011	Tap Screws M3 X 12	14
12	PH6082012	Audio Jack Nuts w/Washers	2
13	PH6082013	Control Knob Nuts w/Washers	3
14	PH6082014	Control Knobs	2
15	PH6082015	Audio Jack Nuts w/Washers	2
16	PH6082016	Tailstop	1
17	PH6082017	Bridge	1
18	PH6082018	Bridge Adjusting Assembly	2
19	PH6082019	Tailstop Adjusting Assembly	2
20	PH6082020	Control Cavity Cover Plate	1
21	PH6082021	Strap Buttons w/Screws	2
22	PAW04M	Hex Wrench 4mm	1
23	PH6082023	Nut	1
24	PH6082024	Audio Jack Plate	1

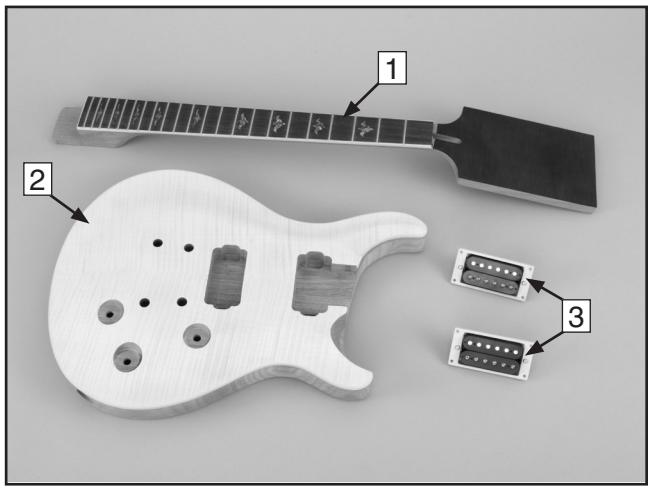


Figure 1. H6082/3 boxed components.

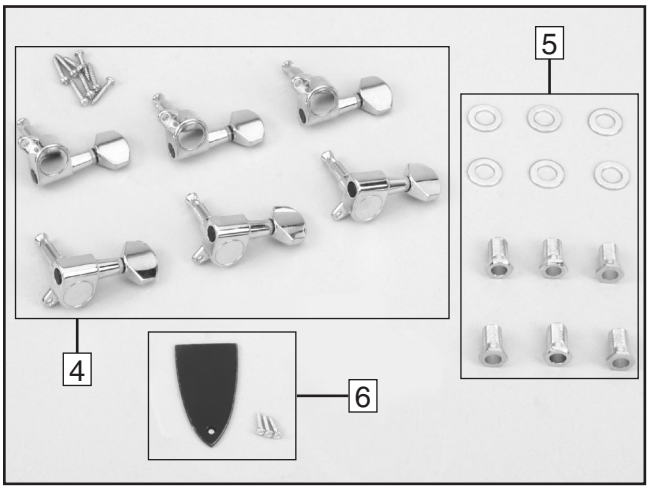


Figure 2. H6082/3 peghead components.

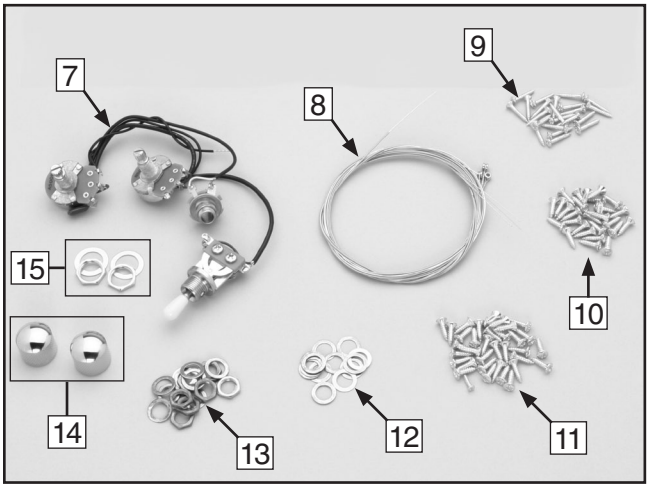


Figure 3. H6082/3 guitar parts.

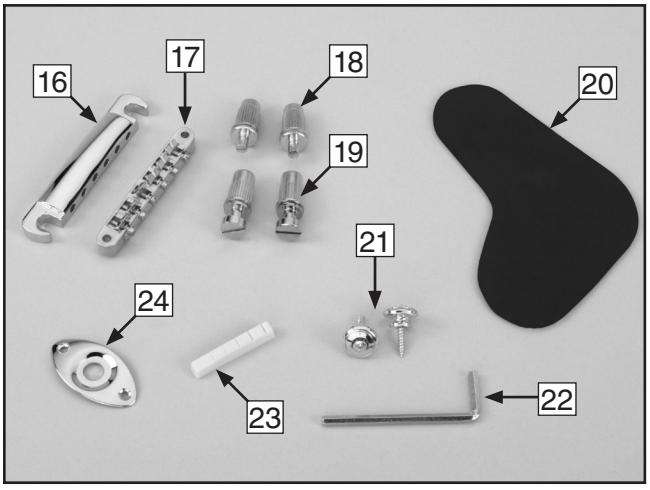


Figure 4. H6082/3 more guitar parts.

Model H6086 Parts

REF	PART #	DESCRIPTION	
1	PH6086001	Neck	1
2	PH6086002	Guitar Body	1
3	PH6086003	Pickups	2
4	PH6086004	Strings	6
5	PH6086005	Tuners w/Bushings and Washers	6
6	PH6086006	Truss Rod Cover w/Screws	1
7	PH6086007	Strap Buttons w/Screws	1
8	PH6086008	Floyd Rose Locking Nut	1
9	PH6086009	Floyd Rose Bridge	1
10	PH6086010	Control Cavity Cover Plate	1
11	PH6086011	Tremolo Bar	1
12	PH6086012	Adjustable Bridge Insert	2
13	PH6086013	Tremolo Spring	4
14	PH6086014	Spring Claw w/Tap Screws	1
15	PH6086015	Tap Screws M3 X 12	18
16	PAW04M	Hex Wrench 4mm	1
17	PH6086017	Wiring Harness	2
18	PH6086018	Control Knobs	6
19	PH6086019	Control Knob Nuts w/Washers	2
20	PH6086020	Audio Jack Nuts w/Washers	1
21	PH6086021	Tap Screws M2 X 12	9
22	PH6086022	Tap Screws M2.6 X 16	1
23	PH6086023	Audio Jack Plate	10

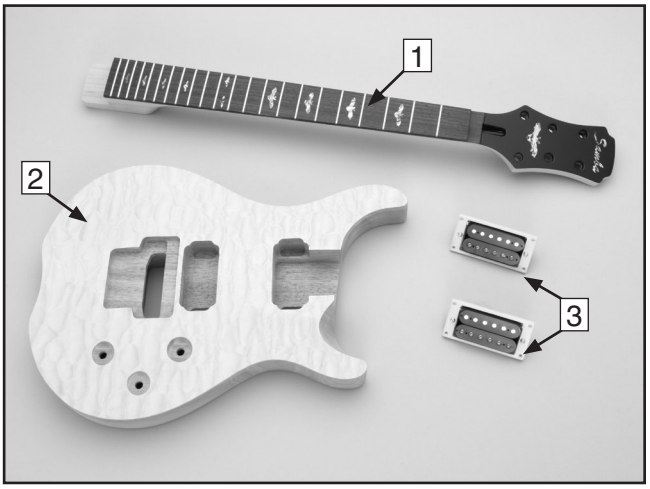


Figure 5. H6086 boxed components.

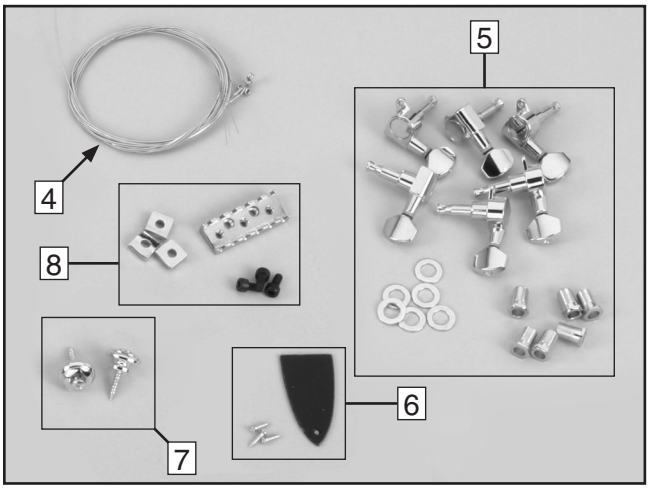


Figure 6. H6086 peghead components.

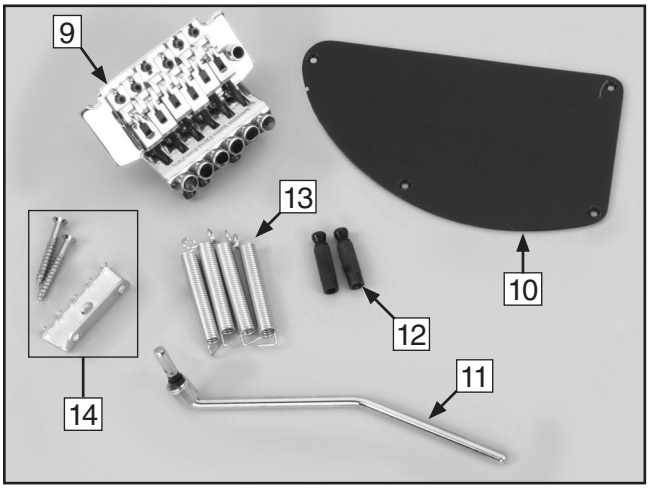


Figure 7. H6086 bridge parts.

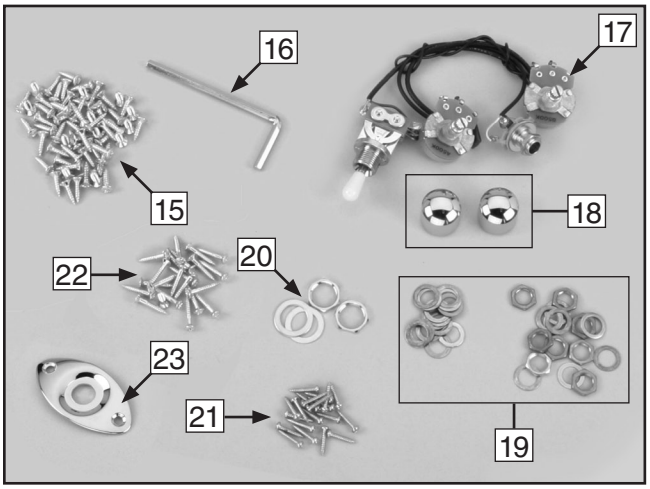


Figure 8. H6086 guitar parts.

Supplies/Tools

The majority of the wooden components in this kit are fully machined from the factory and are ready for assembly. A small amount of shaping, drilling, sanding and finishing will need to be performed to complete your guitar.

Recommended Tools & Supplies:

- Sharp Pencil
- 18" Metal Straightedge with a 1/32" Resolution
- Drill Press
- Drill Bits: 1/16", 3/32", 1/8", 5/32", 3/16", 5/16"
- Depth Stop
- Bandsaw or Coping Saw with 1/4" Blade
- ANSI Approved Respirator
- ANSI Approved Safety Glasses
- Aluminum-Oxide Sanding Paper #150, #220, and #320 Grit
- Wet and Dry Sanding Paper #400, #600, and #1000 Grit
- Flexible Sanding Block
- Wood Glue
- Chisel or Razor Blade
- Phillips Screwdriver
- 1/4" Steel Rod, or a Coat Hanger
- Masking Tape
- Tack Cloth or Clean Soft Rag
- Sanding Sealer
- Assorted Wood Files
- Finishing Materials
- Buffing Compounds
- Oil Wood Finish
- Soldering Iron and Solder
- Peghead Reamer or a Round File
- Ratchet with 11MM and 14MM Sockets
- Hammer
- Small Wooden Block
- C-Clamps
- Wire Cutters

Identification

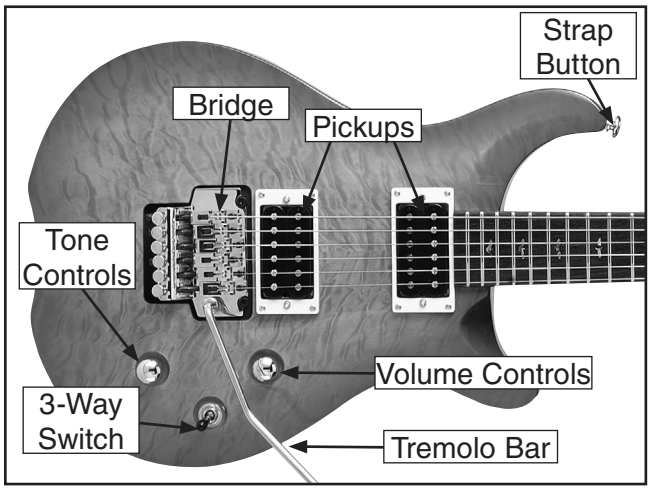


Figure 9. Model H6086 identification.

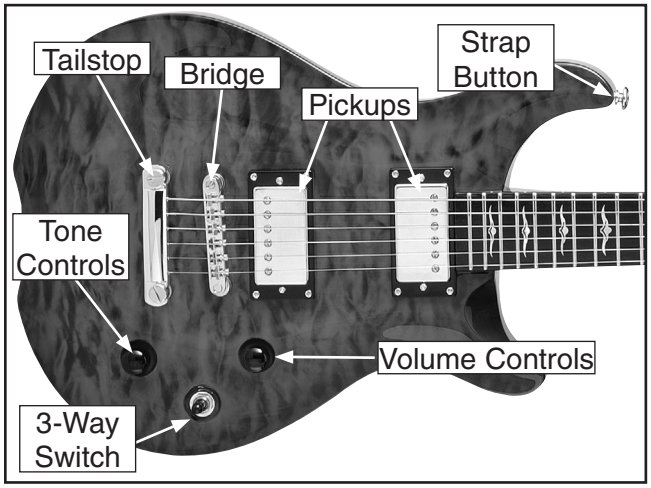


Figure 10. Model H6082/3 identification.

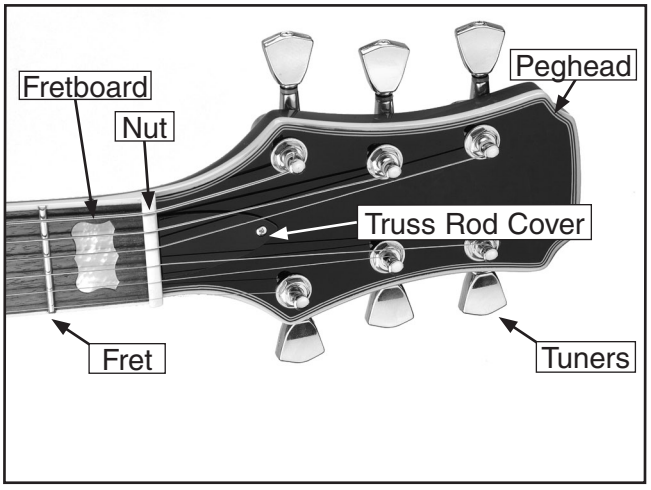


Figure 11. Peghead identification.

SECTION 4: ASSEMBLY

Shaping the Headstock on Model H6082/83

The peghead for these models comes as a large square so it can be cut to any shape. The only limitation is the strength of the wood. If the headstock is cut too close to the pegholes or in between the pegholes and the nut, the wood may crack under the pressure of the strings. These instructions will guide you through designing the shape of the headstock and the placement of the pegholes.

Components Needed	**Qty**
Guitar Neck	1

Tools Needed

Sharp Pencil	1
Paper	Varies
Bandsaw with a ¼" Blade or a Coping Saw	1
Woodworking Files	Assorted
Drill Press with a ⅜" Drill Bit	1

To shape the headstock:

1. Trace the headstock onto a piece of paper. Test various ideas for headstock shapes on paper before cutting into the headstock. To design a symmetrical headstock, fold the paper in half and cut out trial shapes.

2. Layout pegholes for the tuners that are a minimum of ½" from the edge of the headstock. Space the centers of the pegholes at least 15⁄16" apart.

3. Draw the path of the strings onto the test paper to ensure that the strings do not interfere with each other. Note—*If the strings cross the nut at a sharp angle, this increases friction and makes tuning difficult. It also increases the likelihood of the strings pulling out of the nut slots.*

4. Layout the tuners on the test piece to ensure you have enough room between the tuners and for the tuner buttons to turn.

5. Redraw your final headstock shape onto the headstock with a pencil.

6. Cut the headstock out with a bandsaw or coping saw. Be sure to cut to the outside edge of your pencil line. Note—*To cut sharp corners, cut several slots perpendicular to the corner, then cut out the small pieces. This will reduce binding on the blade.*

7. Carefully hand file the headstock to finalize the shape.

8. Drill the pegholes with a ⅜" drill bit in a drill press as shown in **Figure 12**. The pegholes are drilled slightly undersized so that the tuners will fit tight.

Figure 12. Drilling the pegholes.

Sanding the Body

The guitar body has been rough sanded at the factory, but it is up to you to do the final sanding before the finish is applied. To get a good finish the body should be sanded with a series of sandpaper grits up to #320 grit.

Components Needed **Qty**
Guitar Body 1

Tools Needed
Flexible Sanding Block.....1
Aluminum-Oxide Sanding Paper
#150, #220, and #320 Grit ..... Varies
Sanding Sealer..... Varies

To sand the guitar body:

1. **Wear an ANSI-approved respirator and safety glasses when sanding wood!**

2. Use a flexible sanding block with #150 grit aluminum-oxide sanding paper to sand the guitar body until there is a consistent scratch pattern on the entire surface. Note—*When hand sanding, always sand in the same direction as the wood grain.*

3. Resand the entire guitar body with #220 grit sanding paper and lightly round over the outside edges of the body. DO NOT round over the neck pocket or the body cavities.

4. Wipe the guitar body with a damp cloth to “raise” the wood grain, allowing the “raised” grain to be sanded smooth.

5. Wait until the wood is dry and resand the entire body with #220 grit sandpaper. Dampen again and resand. Note—*If you want to add color to a natural wood finish, the stain should be applied before continuing with the next step. Stains cannot be applied to the guitar body after the sanding sealer.*

6. Apply a coat of sanding sealer according to the manufacturer's instructions or apply primer if you are using a solid color. Note—*Make sure the sealer you are using is compatible with the finish that you plan to use.*

7. When the sanding sealer or primer is dry, use #320 grit sandpaper for final sanding. DO NOT sand through to bare wood.

Sanding the Neck

Like the guitar body, the guitar neck has been rough sanded at the factory. Final sanding should be done as described in the previous sub-section *"Sanding the Body"*. Consider applying inlays or additional design work on the fretboard and headstock before final sanding. Note—*Take your time and test your designs in scrap wood before performing the work on the instrument.*

The fretboard requires no sanding. Sanding the fretboard will affect the playability of the guitar and could lead to unrepairable damage.

Finishing the Neck

Some of the finishing options include stains, lacquers, varnishes and oil finishes. Traditionally this style of guitar has a clear finish on the neck. Depending on the type of finish, they can be applied with a spray gun, brush, rag, or a spray can. Finish materials and books on finishing instruments can be ordered through Grizzly Industrial or numerous luthier supply catalogs.

Components Needed **Qty**
Guitar Neck 1

Tools Needed
Masking Tape..... Varies
¼" Steel Rod, or a Coat Hanger 1
Tack Cloth or a Clean Rag..... Varies
Finish and Tools for Application ..... Varies
Narrow Chisel or Razor Blade.....1
Wet/Dry Sandpaper #600, #1000 grit..... Varies
Buffing Materials..... Varies

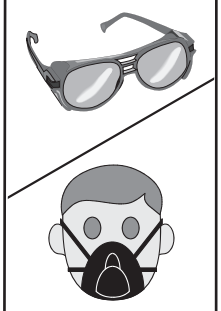
To finish the guitar neck:

1. Mask off the surface of the fretboard. Carefully press all the masking tape edges securely to the fretboard. The finish coat can seep under these edges, especially near corners, uneven edges, and places where the frets meet the fingerboard.

2. Make an "S" shaped hook out of ¼" steel rod, or a coat hanger that has been folded in half.

3. Wipe the entire neck with a tack cloth or a soft clean rag to remove any dust.

4. Thread the hook through the upper peghole and hang the neck in the finish room.



⚠WARNING

Most finishes can be hazardous to your health. Wear a NIOSH/OSHA approved respirator with particulate and gas/vapor filters, safety glasses, rubber gloves, and work in a well ventilated area when using finishing materials!

5. Apply the finish according to *"Finishing the Body"*; **steps 5–11** on **page 10**.

6. Before wet sanding, remove the masking tape from the fretboard and carefully scrape any excess finish off the fretboard with a razor blade or chisel as shown in **Figure 13**.

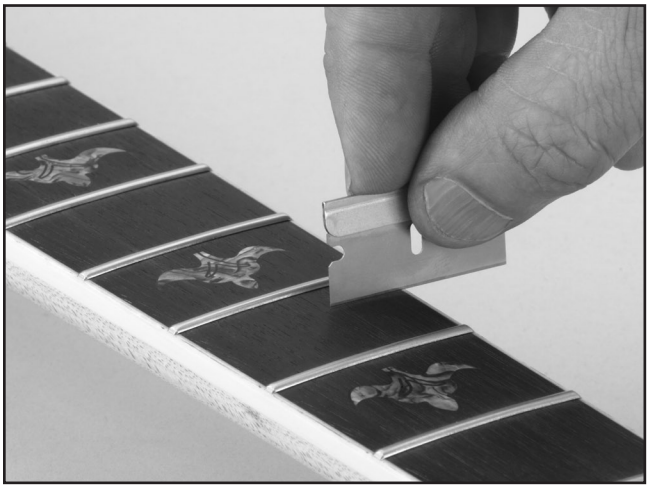


Figure 13. Scraping the fretboard.

7. Use a clean rag to wipe wood finishing oil on the surface of the fretboard.

Finishing the Body

These guitars look incredible with a clear finish to highlight the pattern of the maple tops. The surface can be stained prior to finishing or a transparent pigment can be added to the finish. These instructions will guide you through a very basic finishing process. Books describing different guitar finishing techniques are available through luthier supply catalogs, or through your local library. Clear finish materials and books on finishing can be ordered through Grizzly Industrial. Finishing a guitar is a difficult task. If you are unsure of your skills; do your research, practice on scrap wood, or take it to a professional.

Components Needed **Qty**
Guitar Body 1

Tools Needed
Temporary Wood Handle 1
Masking Tape..... Varies
Tack Cloth or a Clean Rag..... Varies
Finish and Tools for Application..... Varies
Wet/Dry Sandpaper #600, #1000 grit..... Varies
Buffing Supplies ..... Varies

To finish the guitar body:

1. Mask off the neck pocket. Press the masking tape tight against the edges of the pocket so the finish does not seep under the tape.

2. Screw through the neck pocket screw holes into a long piece of wood to use for a handle during spraying. Drill a hole in the end of the handle for hanging from a hook.

3. Wipe the entire guitar body with a tack cloth or a soft clean rag to remove any dust.

4. Thread the hook through the temporary handle and hang the body in the finish room.

5. Apply several thin coats of the finish, following the manufacturers instructions. Multiple thin coats usually produce a better quality finish than one heavy coat.

6. Sand the entire body with #400 grit wet and dry sandpaper after at least three coats of finish have been applied. DO NOT sand through the finish—be especially careful on the edges.

7. Apply more finish, sanding between coats, until the finish is the desired thickness. Note—*If finishing with a solid color, you may wish to apply several coats of a clear finish over the top, sanding between coats, to add depth to the finish.*

9. When the final coat has dried at least a week, preferably a month, remove the temporary handle and masking.

10. Wet sand the finish using #600 grit wet and dry sandpaper on a sanding block, followed with #1000 grit wet and dry sandpaper.

11. Buff the finish by hand or with a buffer, starting with a medium polish and work up to a high gloss polish. Note—*If using a buffing machine, be extremely careful to avoid going through the finish, especially on the edges.*

NOTICE

Dust particles suspended in the air will settle on wet finishes, causing less than satisfactory results. To avoid this problem:

- **Leave the finishing room undisturbed for 24 hours prior to applying the finish.**
- **Avoid making unnecessary movements upon entering the finish room.**
- **Apply the finish to the desired guitar parts and immediately leave the finish room.**
- **DO NOT return to the room until the specified drying time has elapsed.**

Installing the Tuners

Each tuner consists of the tuner, washer, and a barrel nut. The tuners are attached to the headstock with a small wood screw that attaches between the tuners.

Components Needed	**Qty**
Guitar	1
Tuner	6
Washer	6
Barrel Nut	6
Tap Screw M2 X 12	6

Tools Needed

Peghead Reamer or Round File.....1
Phillips Head Screwdriver.....1
Drill Press with a 1/16" Drill Bit 1

To install the tuners:

1. Place the six tuners into the holes on the back of the headstock. The holes may need to be widened with a peghead reamer or a round file. DO NOT widen the holes too much—the tuners should fit snug.

2. Slide a washer over the tuner shaft and screw the barrel nut onto the tuner.

3. Align the tuners perpendicular to the edge of the headstock and parallel to each other. Use a strip of masking tape to secure their position on the headstock.

4. Using a 1/16" drill bit in a drill press, drill 3/8" deep holes into the headstock. Note—*Drilling the holes deeper than 3/8" could result in drilling out through the front face of the headstock. Use a depth stop or tape wrapped around the drill bit at the correct depth as an indicator.*

5. Secure the machine heads to the guitar headstock with the tap screws.

Figure 14. Completed peghead.

Installing the Neck

Components Needed	Qty
Guitar Neck	1
Guitar Body	1

Tools Needed

Sandpaper #150 Grit	Varies
Wood Glue	Varies
C-Clamp	1

To attach the neck to the guitar body:

1. Place the neck into the neck pocket (**Figure 15**). If there is a gap between the neck and the body, lightly sand the highpoints on the neck until it fits in the pocket.

Figure 15. Neck installation.

2. Remove the neck and spread a thin layer of wood glue onto the areas of the neck that fit into the neck pocket, and spread glue in the neck pocket.

3. Place the neck into the neck pocket. Make sure that it fits correctly in the pocket.

4. Clamp the neck to the body as shown in **Figure 16**. Note—*To protect the neck and body, place wood blocks and pads between the clamp and the guitar.*

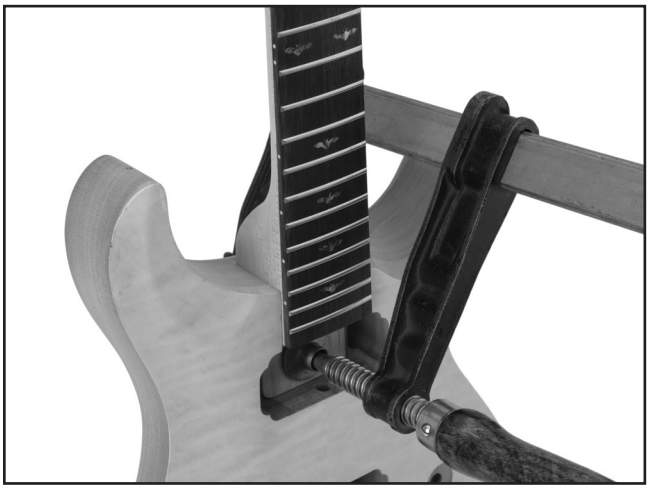


Figure 16. Clamping the neck to the body.

Installing the Pickups

The pickups convert the motion of the strings into an electrical pulse. This electrical pulse is amplified and used to power the speaker. The speaker moves the air in the same motion as the guitar strings, making the sound audible.

Components Needed	**Qty**
Guitar	1
Pickup	2

Tools Needed

Drill with a 3/16" Drill Bit	1
Masking Tape	Varies
Soldering Iron	1
Solder	Varies

To attach the pick guard to the guitar body:

1. Push the black wire on the neck pickup (the thinner pickup) through the hole shown in **Figure 17,** and place the pickup in the cavity with the thin edge towards the neck.

Figure 17. Neck pickup wire.

2. Push the gray wire on the bridge pickup (the thicker pickup) through the hole shown in **Figure 18** and place the pickup in the cavity with the thin edge towards the neck.

Figure 18. Bridge pickup wire.

3. Secure the wires with masking tape so they do not fall back out through the holes.

4. Secure the position of the pickups to the body with masking tape.

5. DO NOT drill the screws at this time! Final adjustments need to be made after installing and winding the strings.

Wiring the Pickups

This guitar comes with a wiring harness that has most of the components soldered in place. You only need to solder in the pickup wires onto the three way switch. Soldering the wires may cause damage to the components if done incorrectly. If you are unsure of your skills; do your research, practice on scrap wires, or take it to a professional.

Components Needed	**Qty**
Guitar	1
Wiring Harness	1
Washer 8MM	4
Nut 8MM	4
Washer 12MM Gold	1
Nut 12MM Gold	1
Back Cover Plate	1

Tools Needed

Socket 11MM, 14MM	1
Soldering Iron	1
Solder	Varies

To wire the pickups:

1. Place the pots and the selector switch in the electronics cavity as shown in **Figure 19**.

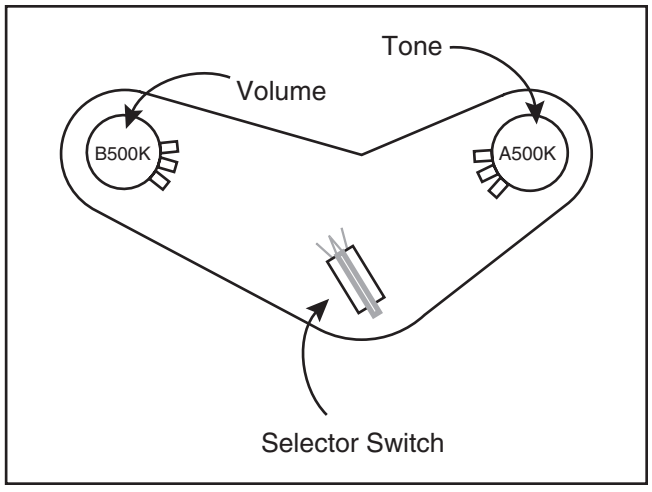


Figure 19. Wiring diagram 1.

2. Flip the guitar over and secure the pots with the 8MM nuts and washers.

3. Rotate the control pot shafts counterclockwise until they stop. Place the control knobs over the control pot shafts with the 0 at the 12 o'clock position.

4. Push the audio jack out through the hole in the end of the body.

5. Solder the pickups onto the selector switch as shown in **Figure 20**.

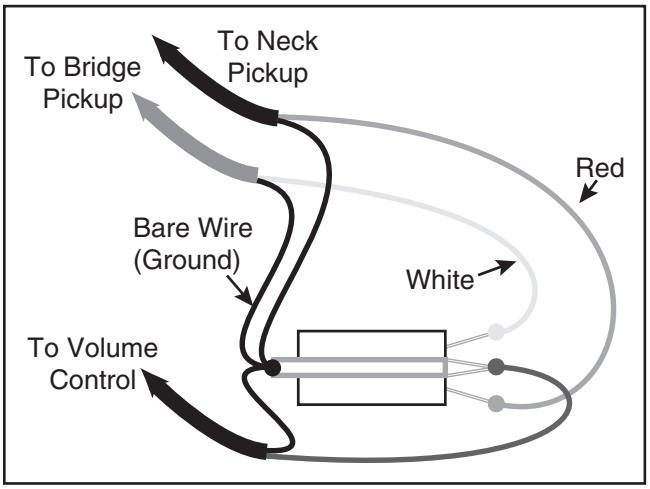


Figure 20. 3-way switch wiring.

6. Rotate the selector switch so the red wire that leads to the neck pickup is towards the front of the guitar.

7. Flip the guitar over and secure the selector switch with the 12MM nuts and washers.

8. Feed the black ground wire through to the tremolo cavity on the H6086, or to the bridge insert hole for the Model H6082 and H6083.

9. Install the back cover plate over the electronics cavity.

Audio Jack

Components Needed	Qty
Guitar	1
Jack Plate	1
Washer 9MM Gold	1
Nut 9MM Gold	1
Tap Screw M3 x 12	4

Tools Needed

Socket 11MM	1
Drill with a 1/16" Drill Bit	1
Depth stop	1
Phillips Head Screwdriver	1

To attach the audio jack to the guitar body:

1. Insert the audio jack into the hole in the jack plate, place the washer over the threads, and secure with the nut (see **Figure 21**).

Figure 21. Jack plate.

2. Place the jack plate in the hole in the guitar.

3. Secure the position of the jack plate to the guitar body with masking tape.

4. Use 1/16" drill bit to drill 1/2" holes through the holes in the jack plate and into the body.

5. Secure the jack plate to the guitar body with four tap screws.

Strap Buttons

The strap buttons are positioned on the guitar as shown in **Figure 22**.

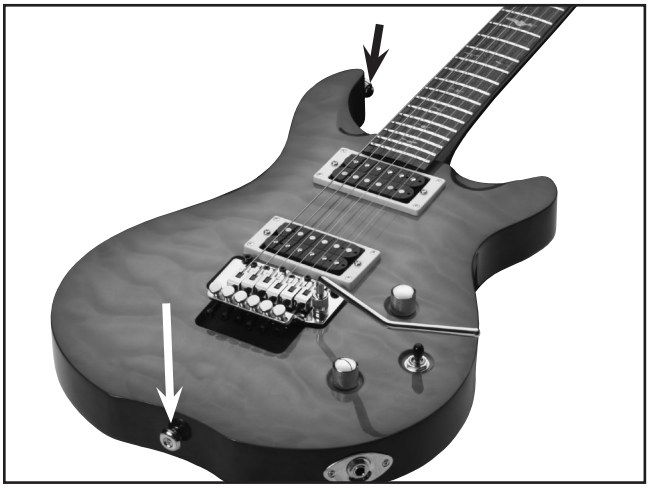


Figure 22. Strap buttons.

Components Needed	Qty
Guitar	1
Tap Screws	2
Strap Buttons	2

Tools Needed

Drill with a 1/8" Drill Bit	1
Phillips Head Screwdriver	1

To attach the strap buttons to the guitar:

1. Using an 1/8" drill bit, drill 3/4" deep holes at each of the mounting locations.

2. Secure each of the strap buttons to the guitar body with a tap screw.

Installing Bridge on Model H6082/83

Components Needed	Qty
Guitar	1
Bridge	1
Stopbar Tailpiece	1
Threaded Inserts	4
Tailpiece Adjustment Screws	2
Bridge Adjustment Screws	2

Tools Needed

Hammer	1
Small Wooden Block	1

To attach the bridge to the guitar body:

1. Place two inserts into the forward holes as shown in **Figure 23**.

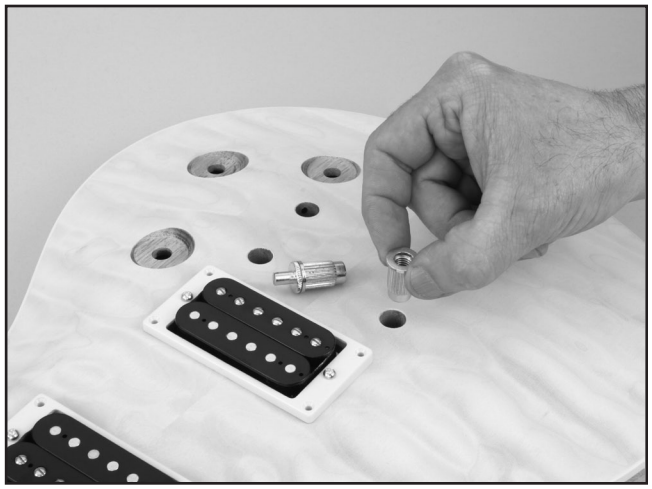


Figure 23. Threaded insert placement.

2. Place the wooden block on an insert and lightly tap the insert down until it touches the top of the guitar body. Repeat for the other insert.

3. Thread the bridge adjustment screws into the inserts, as shown in **Figure 24,** and place the bridge over the inserts.

4. Feed the grounding wire from the electronics cavity into the back hole. Hook the end of the wire down so it catches the edge of the hole.

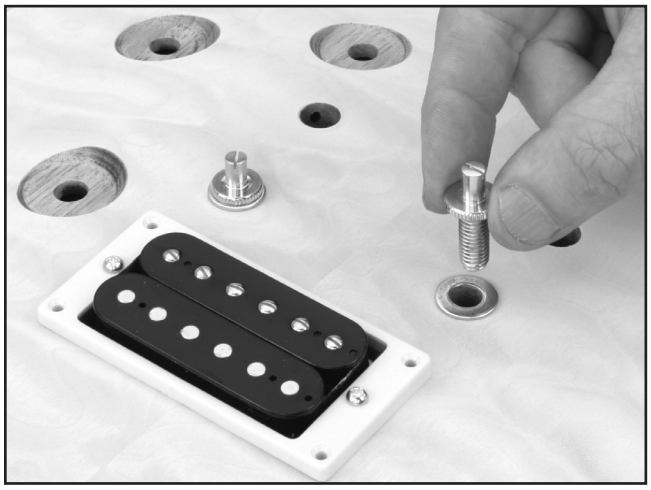


Figure 24. Bridge adjustment screw.

5. Place the remaining inserts into the back holes.

6. Place the wooden block on an insert and lightly tap the insert down until it touches the top of the guitar body. Repeat for the other insert.

7. Thread the bridge adjustment screws into the inserts as shown in **Figure 25**.

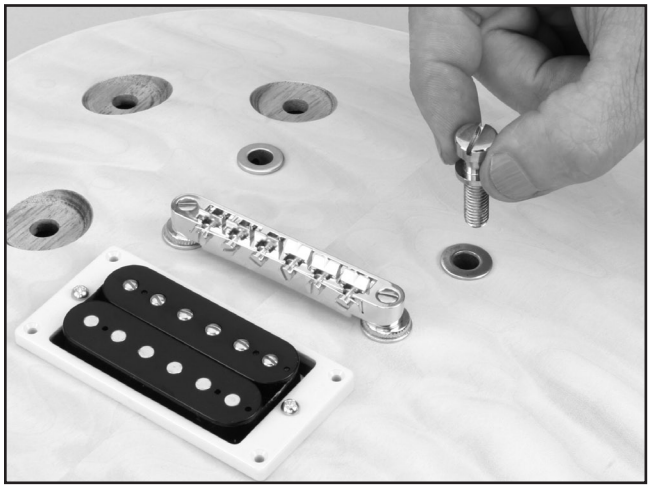


Figure 25. Tailpiece adjustment screw.

8. Slide the tailpiece onto the adjustment screws.

Installing Bridge on Model H6086

Components Needed	Qty
Guitar	1
Floyd Rose Bridge	1
Adjustable Insert	2
Spring Claw	1
Tap Screw M5 X 45	2
Spring	3

Tools Needed

Hammer	1
Phillips Head Screwdriver	1
Soldering Iron and Solder	1

To attach the tremolo bridge to the guitar body:

1. Remove the screws from the adjustable inserts and tap the inserts into the holes in the cut-out. Thread the screws into the inserts.

2. Place the bridge in the cut-out shown in **Figure 26** with the notches against the adjustable inserts.

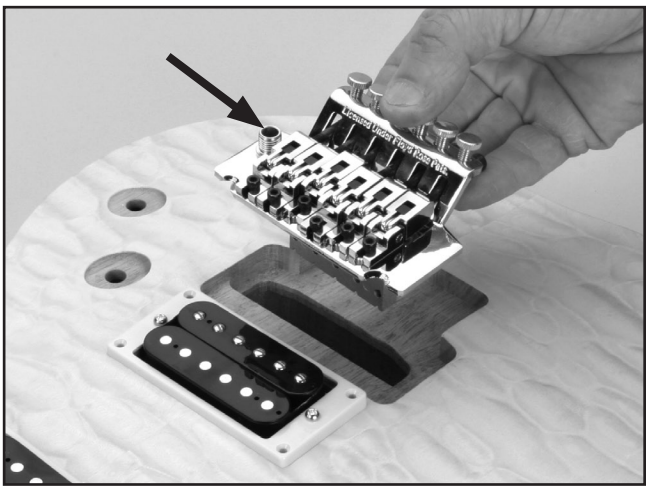


Figure 26. Tremolo bridge placement.

3. Flip the guitar body over and place the spring claw in the cavity as shown in **Figure 27**.

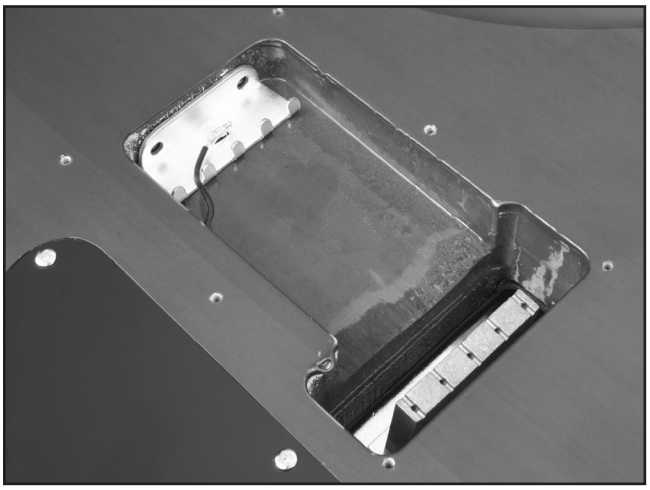


Figure 27. Spring claw placement.

4. Secure the spring claw to the guitar body with two M5 X 45 tap screws. Tighten the screws until the spring claw is 1" from the wall of the cavity. Note—*These screws are used to adjust the spring tension.*

5. Solder the black wire to the spring hanger.

6. Stretch the three springs from the spring claw to the tremolo bridge as shown in **Figure 28**.

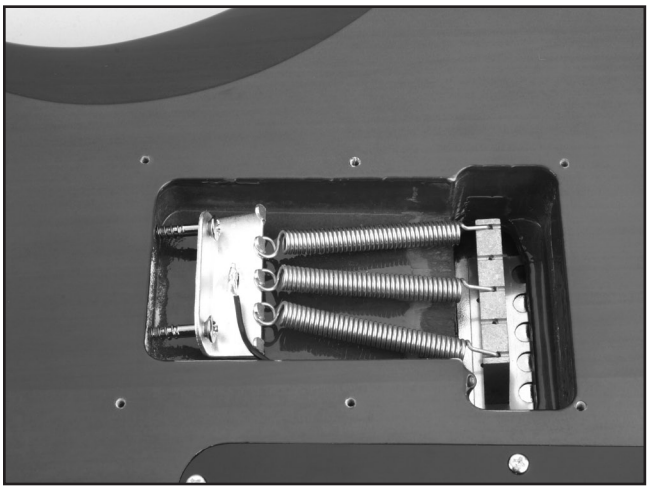


Figure 28. Correct spring placement.

7. Place the tremolo arm in the socket pointed out in **Figure 26**, and tighten the nut.

Mounting Back Plates

Components Needed **Qty**
Guitar 1
Backplates ..... Varies
Tap Screw M3 X 12 6

Tools Needed
Drill with a 3⁄32" Drill Bit 1
Phillips Head Screwdriver 1

To mount the back plate to the guitar body:

2. Secure the position of the back plates to the guitar body with masking tape.

3. Using a 3⁄32" drill bit, drill 3⁄8" deep holes through the holes in the back plate.

4. Secure the back plates to the guitar body with M3 X 12 tap screws.

Gluing the Nut on the Model H6082 and H6083

The nut holds the peghead end of the strings the correct distance above the frets. It is not necessary to cut the string notches in the nut that comes with this kit.

Components Needed **Qty**
Guitar 1

Tools Needed
Narrow Chisel or Razor Blade 1
Glue ..... Varies

To install the nut:

1. Use a chisel or razor blade to scrape any finish out of the nut slot (**Figure 29**). DO NOT remove any wood from the nut slot.

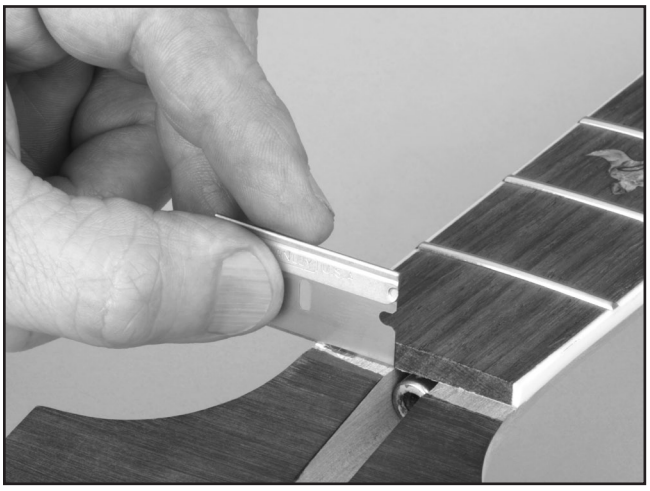


Figure 29. Cleaning out the nut slot.

2. Spread a thin layer of glue in the nut slot and center the nut in the nut slot.

3. Install the strings as described on **page 20**. The strings will hold the nut in place until the glue dries.

4. Wipe away the excess glue before it sets up, then allow the glue to dry for 24 hours.

Attaching the Nut on the Model H6086

Components Needed	Qty
Guitar	1
Floyd Rose Locking Nut	1
Tap Screw M3 X 12	2

Tools Needed

Narrow Chisel or Razor Blade	1
Drill with a 3/32" Drill Bit	1
Depth Stop	1
Phillips Head Screwdriver	1

To install the nut:

1. Use a chisel or razor blade to scrape any finish out of the nut slot. DO NOT remove any wood from the nut slot.

2. Center the locking nut in the nut slot.

3. Drill 3/8" deep holes through the two holes shown in **Figure 30.**

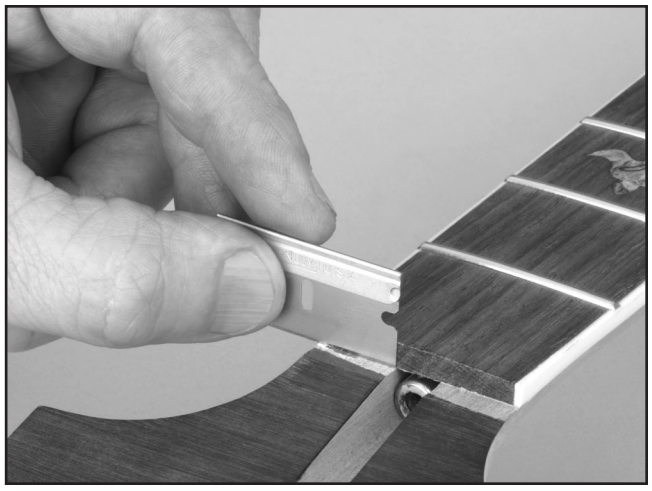


Figure 30. Installing the locking nut.

4. Thread two screws through the locking nut and into the neck.

Note—*The remaining lock blocks and cap screws will be installed after the guitar is tuned.*

Truss Rod Cover

Components Needed	Qty
Guitar	1
Truss Rod Cover	1
Tap Screw M2 X 12	1

Tools Needed

Drill with a 1/16" Drill Bit	1
Depth stop	1
Phillips Head Screwdriver	1

To install the nut:

1. Center the truss rod cover over the hole for the truss rod and press it up against the nut.

2. Use 1/16" drill bit to drill 3/8" holes through the hole in the truss rod cover and into the peghead.

3. Secure the truss rod cover to the peghead with the tap screw.

Winding Strings on Model H6082/83

The correct position of the guitar strings is shown in **Figure 31**. The thin High E string is the "1st" string and the thick Low E string is the "6th".

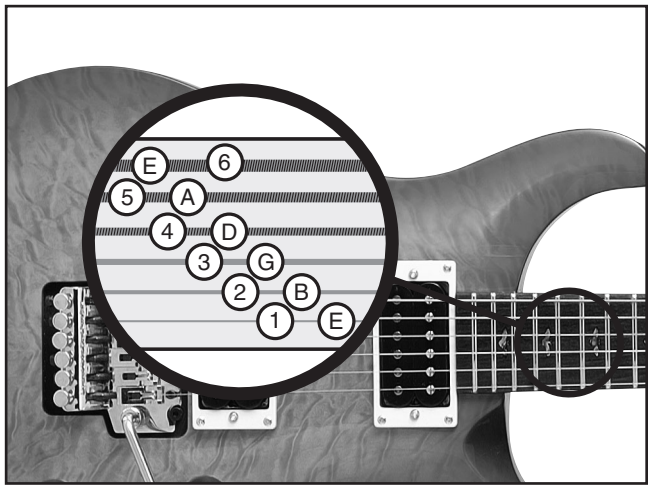


Figure 31. Correct string locations.

Components Needed	**Qty**
Strings	6

Tools Needed

Wire Cutters 1

To install the guitar strings:

1. Slide the 1st string through the corresponding hole in the bridge (**Figure 32**).

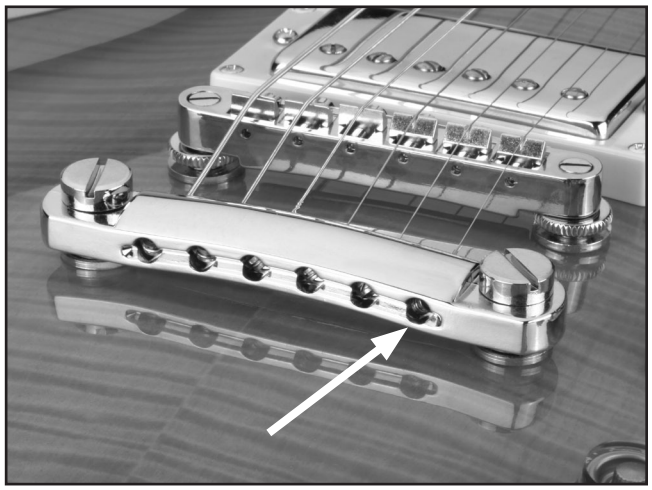


Figure 32. 1st string installation hole.

2. Guide the string over the bridge saddle, over the nut, and through the hole in the corresponding tuner.

3. Allow only enough slack in the string for 2-3 rotations around the tuner. Note—*If too much slack is allowed, then the string could wind off the machine head after many successive rotations. If not enough slack is allowed, then the string may not hold the winding tension.*

4. Bend the string at a right angle across the edge of the machine head.

5. Rotate the tuners until the string just begins to hold the winding tension. Note—*DO NOT tighten the strings beyond the initial tensioning at this time. Final tensioning should be completed during the string tuning process.*

Figure 33. String wrapped around tuner.

6. Use wire cutters to cut off the excess string.

7. Repeat the above process for the remaining strings.

Winding Strings on the Model H6086

The correct position of the guitar strings is shown in **Figure 31**. The thin High E string is the "1st" string and the thick Low E string is the "6th".

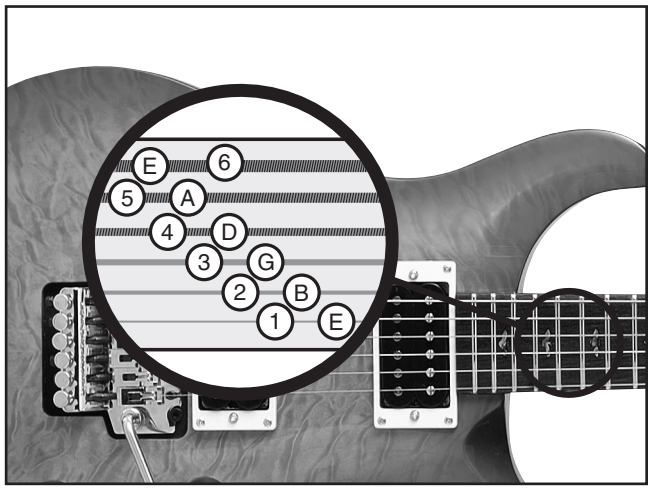


Figure 31. Correct string locations.

Components Needed	**Qty**
Strings	6

Tools Needed

Wire Cutters	1
Hex Wrench 3MM	1

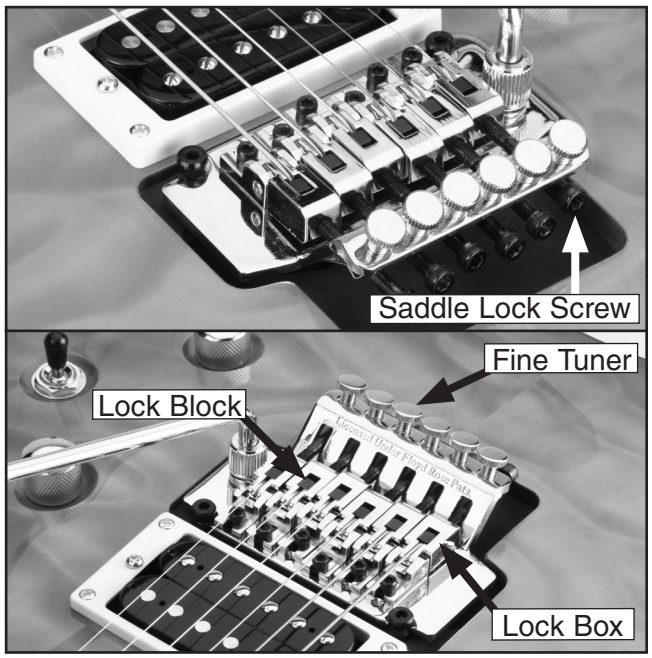


Figure 34. Bridge components.

To install the guitar strings:

1. Cut the ball ends and wraps off of the guitar strings.

2. Insert the strings between the lock block and the front edge of the lock box as shown in **Figure 35**.

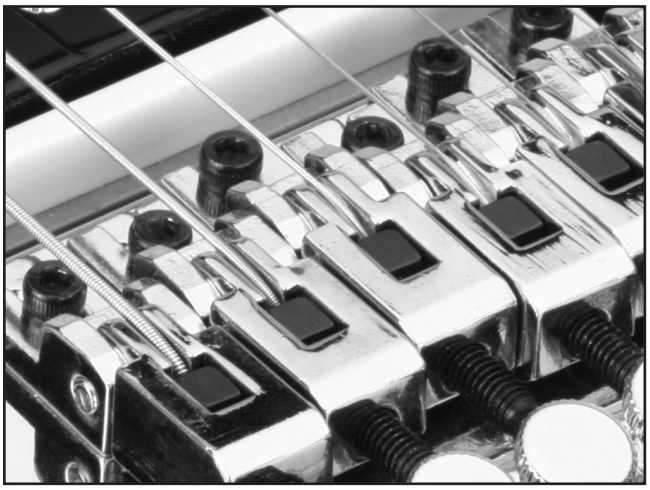


Figure 35. Strings locked into lock box.

3. Tighten the saddle lock screws.

4. Guide the strings over the nut, and through the hole in the corresponding tuners.

5. Allow only enough slack in the strings for 2-3 rotations around the tuner. Note—*If too much slack is allowed, then the strings could wind off the machine head after many successive rotations. If not enough slack is allowed, then the strings may not hold the winding tension.*

6. Bend the strings at a right angles across the edge of the machine heads.

7. Rotate the tuners until the strings just begin to hold the winding tension. Note—*DO NOT tighten the strings beyond the initial tensioning at this time. Final tensioning should be completed during the string tuning process.*

8. Use wire cutters to cut off the excess string.

SECTION 5: SET UP

General

Guitar set up is an art that requires skill, patience and experience. If you have the patience, you can acquire the skill and experience. If you don't have the patience, you may want to have your guitar set up by a qualified guitar technician.

This section on set up is a general overview of set up practices. We highly recommended that you research more in-depth methods. Books on setting up electric guitars can be ordered through Grizzly Industrial, luthier supply catalogs, or may be available through your local library.

Neck Adjustment

The guitar neck was adjusted perfectly straight before it was packaged; however, the moisture content of wood acclimates to the humidity of the surrounding environment. This characteristic results in movement of the wood components with regards to alignment. It is not uncommon for the neck to require adjustment several times each year, especially in regions where the seasonal climate changes are more drastic.

Components Needed **Qty**
Guitar with Strings Installed 1

Tools Needed
Metal Straightedge 18" 1
Hex Head Wrench 4MM 1
Feeler Gauge Set 1
Phillips Head Screwdriver.....1

To adjust the bow of the guitar neck:

1. Tighten the strings to playing tension.

2. Place a straightedge from the 1st fret to the 17th. Measure any gaps between the straightedge and the frets with the feeler gauge.
   —If the neck is flat, or bowed up .012" or less, the neck is set up correctly.
   —If the gap is greater than .012", or if the neck bows away from the straightedge, continue to **step 3**.

3. Loosen the strings and turn the truss rod nut in the base of the neck (**Figure 36**) counterclockwise to release tension on the neck. Retighten until the nut begins to grab.

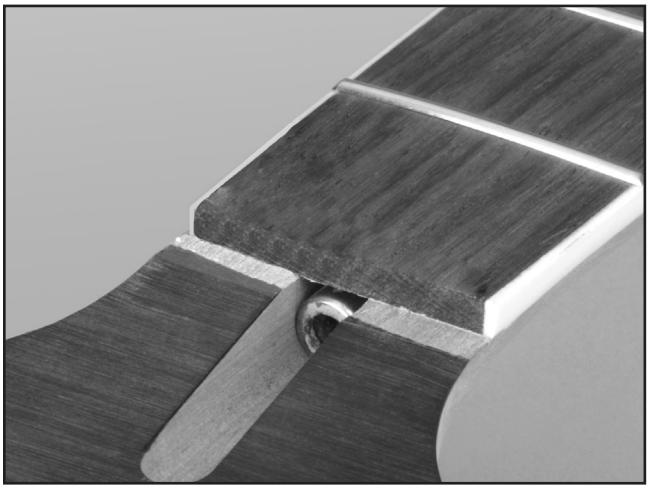


Figure 36. Truss rod nut.

5. To flatten a back bow, turn the truss rod nut a ¼ turn clockwise. To correct an up bow, turn the nut a ¼ turn counterclockwise.

6. Restring the guitar and recheck the neck with the straightedge.
   —If the neck is correctly adjusted, go to the next section.
   —If the neck is still out of adjustment return to **step 3**.

String Height Adjustment for Model H6082/83

Correct string height is crucial for maximizing the playability of your electric guitar. The string height is the distance between the top face of the fret and the bottom face of the string (**Figure 37**).

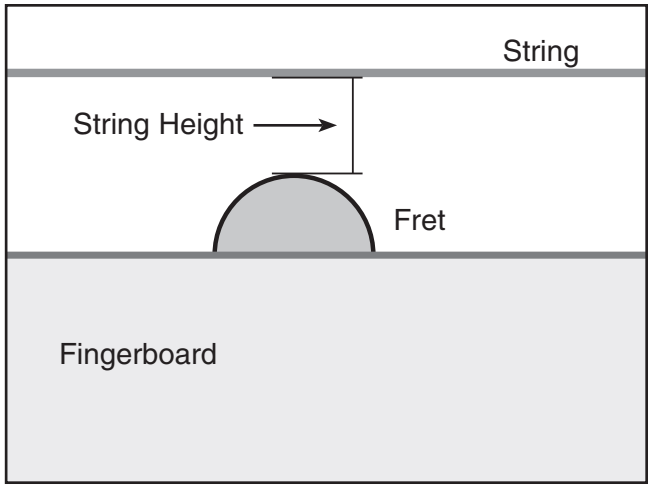


Figure 37. String height measurement.

Components Needed **Qty**
Guitar with Strings Installed 1

Tools Needed
Metal Straightedge or Feeler Gauges 1
Flat Head Screwdriver 1

To adjust the string height:

1. Tune the guitar, then measure the string height at the twelfth fret. The 1st string measurement should be 3/64" the 6th string measurement should be 5/64".

2. De-tension the strings and adjust the bridge height as shown in **Figure 38**.

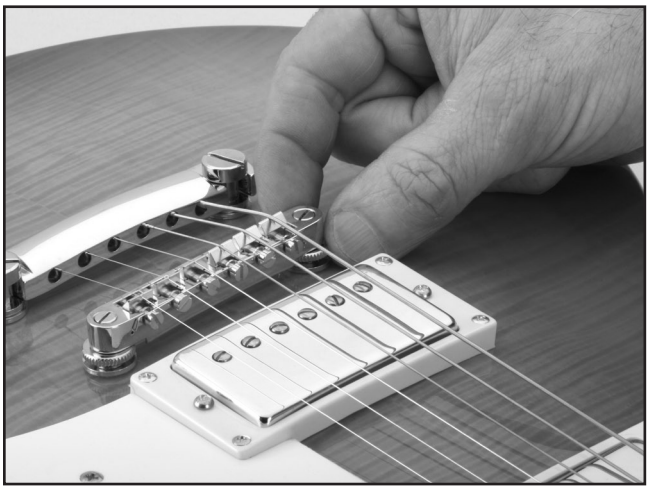



Figure 38. Adjusting the bridge height.

3. Re-tune the guitar and check the string height.
—If the strings are at the correct height, go to the next step.
—If the strings are at the wrong height return to **step 2.**

4. Check the angle of the strings between the bridge and the tailstop shown in **Figure 39**.
—If the strings touch the back edge of the bridge, raise the tailstop.
—If there is a large gap between the back edge of the bridge and the strings, lower the tailstop until there is only a small gap**.**

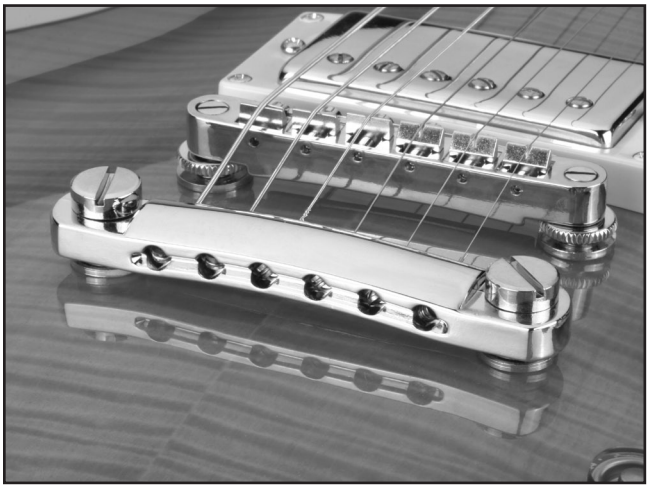


Figure 39. Adjusting the tailstop.

String Height Adjustment for the Model H6086

Correct string height is crucial for maximizing the playability of your electric guitar. The string height is the distance between the top face of the fret and the bottom face of the string (**Figure 37**).

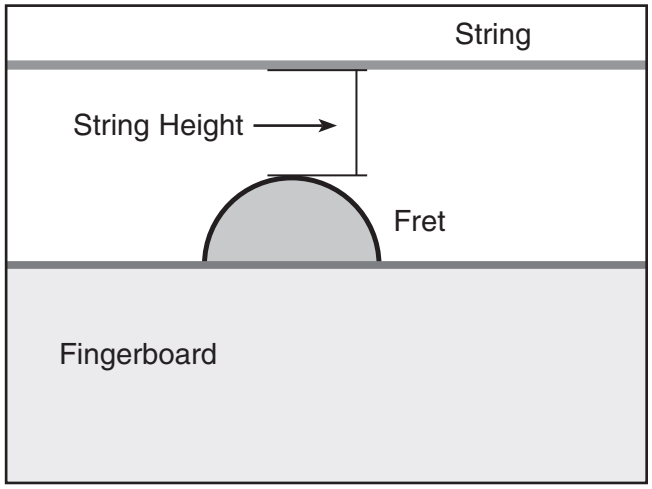


Figure 37. String height measurement.

Components Needed **Qty**
Guitar with Strings Installed 1

Tools Needed
Metal Straightedge or Feeler Gauges 1
Hex Wrench 3MM.....1

To adjust the string height:

1. Tune the guitar, then measure the string height at the twelfth fret. The 1st string measurement should be 3/64" the 6th string measurement should be 5/64".

2. De-tension the strings and adjust the bridge height by turning the height adjustment screws pointed out in **Figure 40**.

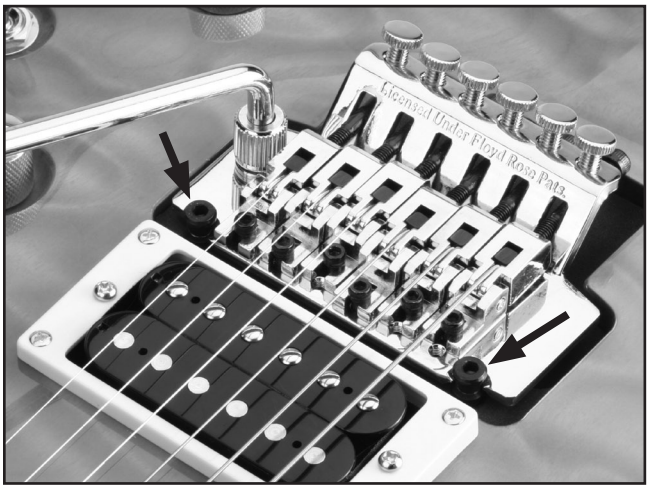


Figure 40. Bridge height adjustment.

3. Re-tune the guitar and check the string height.
—If the strings are at the correct height, go to the next section.
—If the strings are at the wrong height return to **step 2.**

Pickup Adjustments

Pickup height can have a dramatic effect on the audio output signal. The closer the strings are to the pickups, the stronger the audio output signal will be. If the strings are too close, distortion is caused by magnetic interference from the electronic components.

Components Needed	**Qty**
Guitar with Strings Installed	1
Tap Screw M3 X 12	1

Tools Needed

Drill with a 3/32" Drill Bit	1
Depth stop	1
Masking Tape	1
Metal Straightedge	1
Phillips Head Screwdriver	1

To adjust the pickups:

1. Align the pickups so the outside pickup screws are directly under the 1st and 6th strings, as shown in **Figure 41,** and tape the pickups in place.

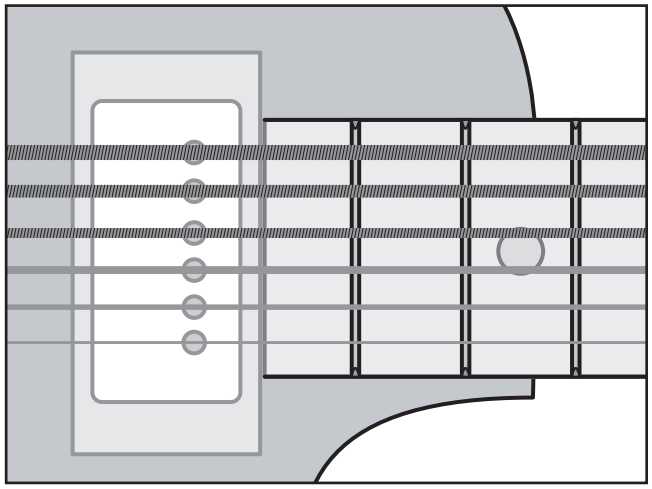


Figure 41. Pickup placement.

2. Drill ½" deep holes through the holes in the pickups and into the guitar body.

3. Fasten the pickups to the body with the M3 X 12 tap screws.

4. Measure the distance from the top of the outside screw heads on the neck pickup to the bottom of the strings as shown in **Figure 42**.

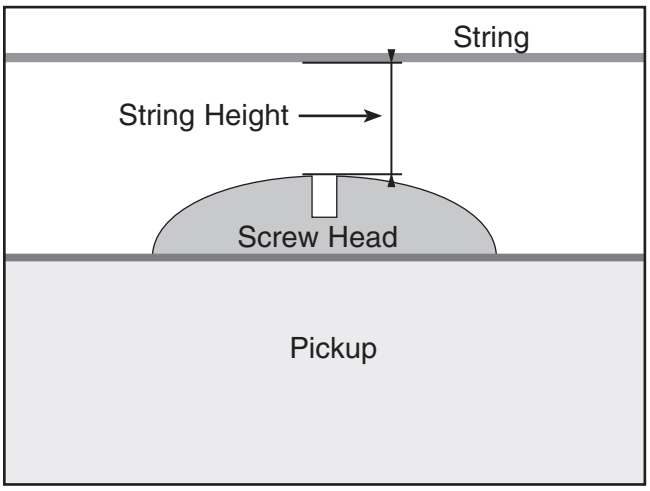


Figure 42. String heights over the pickup.

4. Adjust the screws shown in **Figure 43** until the gap between the strings and the pickup is 3/32".

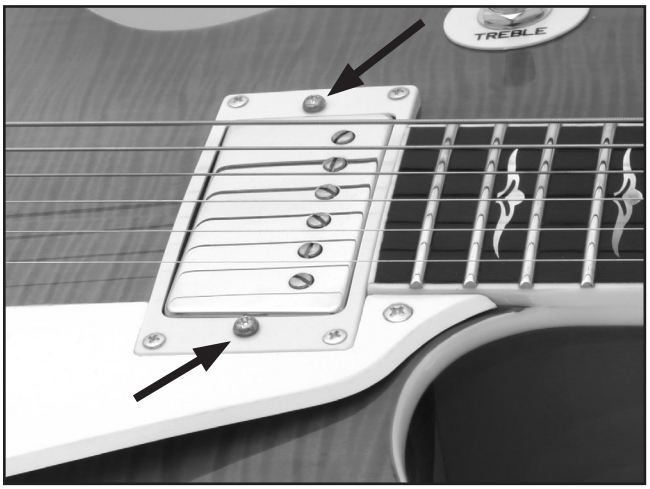


Figure 43. Pickup height adjustment.

5. Measure the bridge pickup and adjust the screws shown in **Figure 43** until the gap between the strings and the pickup is 1/16".

Spring Adjustment On the Model H6086

Components Needed **Qty**
Guitar with Strings Installed 1

Tools Needed
Phillips Head Screwdriver.....1

To adjust the tremolo springs:

1. Tighten the spring claw screws to approximately 5/8" from the front edge of the tremolo cavity as shown in **Figure 44**.

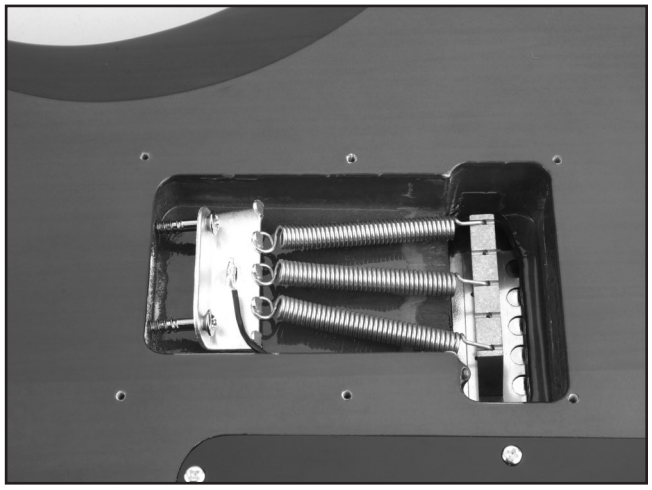


Figure 44. Spring adjustment.

2. Fine tune the springs until the bridge sits parallel with the surface of the guitar body.

Tuning

Tuning is an important guitar concept. If the guitar is not in tune, the resulting sound is unpleasant. These instructions explain how to tune by ear. You can also tune using an electronic tuner such as the Grizzly H3097 Chromatic Tuner shown on**on page 29**.

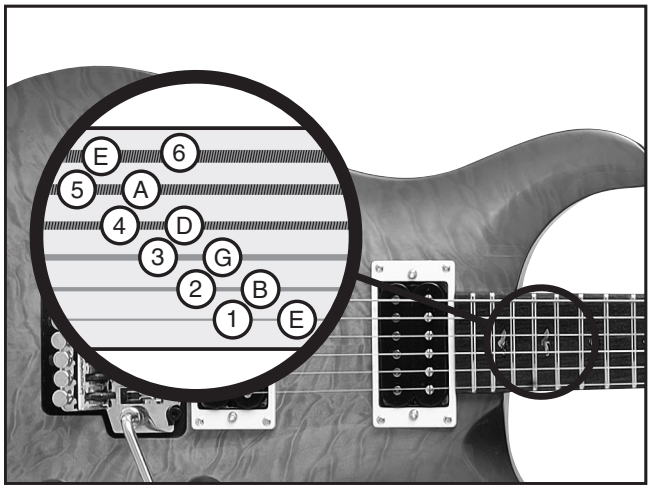


Figure 45. Standard tuning.

To tune the guitar:

1. Play a Low E pitch on a piano, a tuning fork, or an electronic computer file.

2. Play an open (non-fretted) 6th string and adjust the tuner to match the Low E. Note—*Always tune up. If the string is tuned high, loosen the string to lower the pitch, then tune the string up to the correct note.*

3. Tune the 5th string by playing the 6th string while it is being pressed (fretted) at the 5th fret, and then play the open 5th string. Adjust the 5th string tuner until the notes match.

4. Perform the same tuning steps on the 4th and 3rd strings.

5. When tuning the 2nd string, fret the 3rd string at the 4th fret instead of the 5th fret.

6. Tune the 1st string in the same manner as the 6th, 5th, 4th, and 3rd strings.

7. On the Model H6086, when the guitar is in tune, tighten the lock blocks on the locking nut to prevent the strings from going out of tune.

Setting Intonation

Setting the intonation adjusts the length of the string to correct for flatness/sharpness on each string. The adjustment is simple, but this procedure takes a lot of trial and error.

Components Needed **Qty**
Guitar with Strings Installed 1

Tools Needed
Phillips Head Screwdriver.....1
Hex Wrench 2.5 MM.....1

To set the intonation:

1. Lightly touch and then release the 1st string directly above the twelfth fret as you pluck the string to play a harmonic note.

2. Now pluck the string while holding it fretted at the twelfth fret. If this note is sharper than the note played in **step 1**, you will need to move the saddle away from the neck. If this note is flat in comparison, move the saddle toward the neck.

3. De-tension the strings and adjust the saddles of the Model H6082 and H6083 with a Phillips screwdriver, or adjust the Model H6086 with a hex wrench.

3. Repeat **steps 1–2** until the string is in tune. Repeat the process for the rest of the strings.

Note—*This procedure can also be done with an electronic tuner by tuning the harmonic note to be exactly in tune and then adjusting the saddle until the note played in **step 2** is also in tune.*

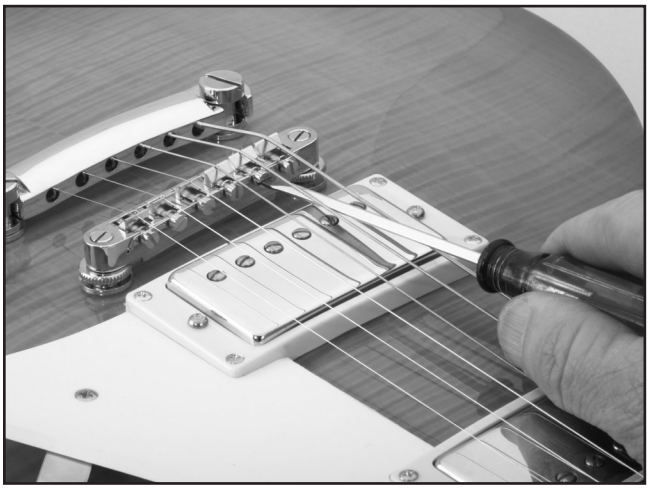


Figure 46. H6082 and H6083 saddle adjustments.

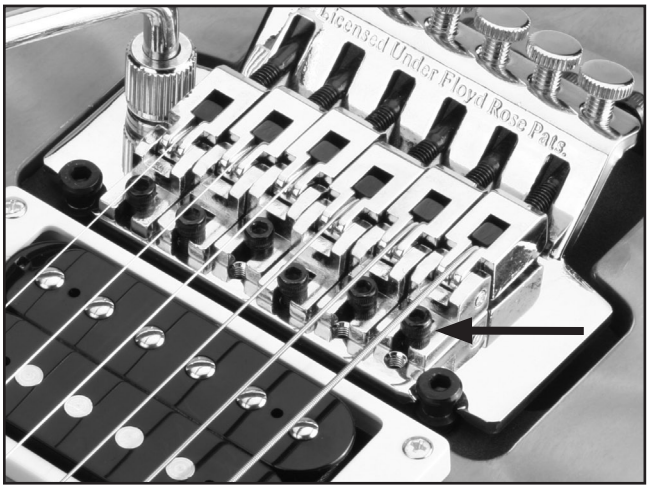


Figure 47. H6086 saddle adjustments screws.

SECTION 6: REFERENCE INFO

Accessories

G7984—Face Shield
H1298—Dust Sealed Safety Glasses
H1300—UV Blocking, Clear Safety Glasses
H2347—Uvex® Spitfire Safety Glasses
H0736—Shop Fox® Safety Glasses
Safety Glasses are essential to every shop. If you already have a pair, buy extras for visitors or employees. You can't be too careful when it comes to shop safety!

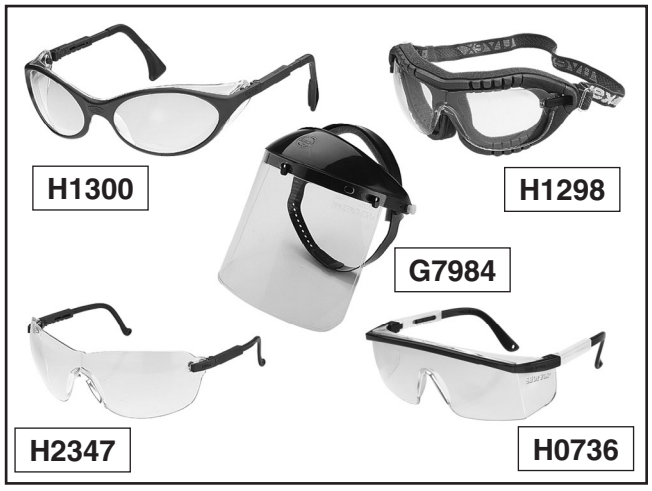


Figure . Our most popular safety glasses.

H1302—Standard Earmuffs
H4979—Deluxe Twin Cup Hearing Protector
H4977—Work-Tunes Radio Headset Earmuffs
Protect yourself comfortably with a pair of cushioned earmuffs. Especially important if you or employees operate for hours at a time.

Figure 48. Our most popular earmuffs.

H2499—Small Half-Mask Respirator
H3631—Medium Half-Mask Respirator
H3632—Large Half-Mask Respirator
H3635—Disposable Cartridge Filter Pair P100
Wood dust is now considered a known carcinogen and has been linked to nasal cancer and severe respiratory illnesses. If you work around dust everyday, a half-mask respirator can be a lifesaver. Also compatible with safety glasses!

Figure 49. Half-mask respirator and disposable cartridge filters.

H3097—Chromatic Tuner
An absolute must for any guitar player, this tuner allows you to tune your acoustic or electric guitar dead on. Includes 9V battery.

Figure 50. Model H3097 Chromatic Tuner.

H5750—Vinyl Washcoat/Sealer, 1Qt
H5751—Nitrocellulose Lacquer, Gloss, 1 Qt
H5752—Nitrocellulose Lacquer, Gloss, 1 Gal
H5753—Nitrocellulose Lacquer, Satin, 1 Qt
H5754—Nitrocellulose Lacquer, Satin, 1 Gal
H5755—Retarder for Lacquer, 1 Qt
H5756—Natural Filler, 1 Pint
H5757—Mahogany Filler, 1 Pint
H5759—Filler Reducer, 1Qt
McFadden's nitrocellulose lacquer is the leading lacquer used by custom guitar builders. It sprays and buffs really well and is capable of giving you a finish that looks "wet."

Figure 51. Model H5750-59 McFadden's Lacquers and Fillers.

H0818—Fine Prepolishing Paste, 1.85 lb
H4873—Medium Prepolish Liquid, 1 Qt
H0821—High Gloss Polishing Liquid, 1 Qt
Menzerna professional polishing compounds will remove any fine scratches from the finish and give your instrument the incredibly high gloss finish that you are looking for.

Figure 52. Menzerna polishing compounds.

Warranty & Returns

Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty applies only to the hardware of this kit, all wood components of this kit are excluded from this warranty. This warranty does not apply to defects due directly or indirectly to assembly, finishing or modification of kits; misuse; abuse; negligence; accidents; repairs or alterations; or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty, contact us by mail or phone, provide proof of purchase, and give us all the details. We will then determine if any components need to be replaced. Kits are non-returnable.

The manufacturer's reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.

Warranty Card

Name_____

Street_____

City _____ State_____Zip_____

Phone Number_____E-Mail_____FAX_____

MODEL #_____ Order #_____

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. Of course, all information is strictly confidential.

1. How did you learn about us?

___Advertisement
___Catalog
___World Wide Web
___Friend
___Card Deck

___Other_____

2. Which of the following magazines do you subscribe to.

___American Woodworker
___Cabinetmaker
___Family Handyman
___Fine Homebuilding
___Fine Woodworking
___Home Handyman
___Journal of Light Construction
___Old House Journal
___Popular Mechanics
___Popular Science
___Popular Woodworking
___Practical Homeowner
___Shop Notes
___Today's Homeowner
___WOOD
___Wooden Boat
___Woodshop News
___Woodsmith
___Woodwork
___Woodworker
___Woodworker's Journal
___Workbench

___Other_____

3. Which of the following woodworking/remodeling shows do you watch?

___Backyard America
___Home Time
___The American Woodworker
___The New Yankee Workshop
___This Old House
___Woodwright's Shop

___Other_____

4. What is your annual household income?

___$20,000-$29,999
___$30,000-$39,999
___$40,000-$49,999
___$50,000-$59,999
___$60,000-$69,999
___$70,000-$79,999
___$80,000-$89,999
___$90,000 +

5. What is your age group?

___20-29
___30-39
___40-49
___50-59
___60-69
___70 +

6. How long have you been a woodworker?

___0 - 2 Years
___2 - 8 Years
___8 - 20 Years
___20+ Years

7. How would you rank your woodworking skills?

___Simple
___Intermediate
___Advanced
___Master Craftsman

8. What stationary woodworking tools do you own? Check all that apply.

___Air Compressor
___Bandsaw
___Drill Press
___Drum Sander
___Dust Collector
___Horizontal Boring Machine
___Jointer
___Lathe
___Mortiser
___Panel Saw
___Planer
___Power Feeder
___Radial Arm Saw
___Shaper
___Spindle Sander
___Table Saw
___Vacuum Veneer Press
___Wide Belt Sander

Other_____

9. How many of your woodworking machines are Grizzly? _____

10. Which benchtop tools do you own? Check all that apply.

___1" x 42" Belt Sander
___5" - 8" Drill Press
___8" Table Saw
___8" - 10" Bandsaw
___Disc/Belt Sander
___Mini Jointer
___6" - 8" Grinder
___Mini Lathe
___10" - 12" Thickness Planer
___Scroll Saw
___Spindle/Belt Sander

___Other_____

11. How many of the machines checked above are Grizzly? _____

12. Which portable/hand held power tools do you own? Check all that apply.

___Belt Sander
___Biscuit Joiner
___Circular Saw
___Detail Sander
___Drill/Driver
___Orbital Sander
___Palm Sander
___Portable Planer
___Saber Saw
___Reciprocating Saw

___Miter Saw
___Router

___Other_____

13. What machines/supplies would you like Grizzly Industrial to carry?

_____

_____

14. What new accessories would you like Grizzly Industrial to carry?

_____

_____

15. What other companies do you purchase your tools and supplies from?

_____

_____

16. Do you think your purchase represents good value?

___Yes ___No

17. Would you recommend Grizzly Industrial to a friend?

___Yes ___No

18. Would you allow us to use your name as a reference for Grizzly customers in your area? **Note: We never use names more than three times.**

___Yes ___No

19. Comments:_____

_____

_____

_____

_____

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